

SPPM



Single Phase Power Supply



Benefits

- **Universal AC, DC input range.** SPPM series can be powered with AC Voltage (88-90 VAC to 264 VAC) or with DC Voltage (100-130 to 370-373 VDC).
- **Reliable power in very compact dimensions.** High compactness, miniature size, long life and high power density, efficiency and reliability.
- **Reliable critical protection.** The operation safety is guaranteed by the various output protections: Over Voltage (OVP), Over Load (OLP), Short Circuit (SCP), Over Power (OPV) and Over Temperature (OTP) depending on the model.
- **Built-in active PFC function.** PF >0.98 (for 100 W to 800 W models, excluded the 150 W).
- **Built-in features.** Built-in Fan Speed Control, remote sense function, DC OK signal depending on the model.
- **Wide operating ambient temperature.** The operating temperature range is from -20 / -30°C to +60 / 70°C depending on the model, and a Storage temperature range from -25°C / -45°C to 85°C.

Description

Enclosed Switching Power Supply for AC/DC and DC/DC power requirement. The new SPPM family provides flexible OEM power solutions for industrial control and automation applications. This series is available with range from 25 W to 800 W, and from 12 V to 48 V. All the range carries full certification offering a wide range of universal input and screw terminal connections.

Applications

This product is suitable for all applications which require single-phase power supply with universal AC or DC voltage input range, high efficiency, and high compactness for panel mounting solution.

Main functions

- High efficiency up to 90%
- Universal AC, DC input voltage range
- 25 W, 35 W, 50 W, 75 W, 100 W, 150 W, 200 W, 240 W, 350 W, 480 W, 600 W, 800 W

References

 **Order code**

 **SPPM** ☐ ☐ 1 ☐

Enter the code entering the corresponding option instead of ☐.

Code	Option	Description	Notes
S	-	Switching	Device typology
P	-	Power supply	
PM	-	Panel mounted	Mounting
☐	12	12 VDC	
	24	24 VDC	
	48	48 VDC	
☐	25	25 W	Rated output power @ 24 VDC output
	35	35 W	
	50	50 W	
	75	75 W	
	100	100 W	
	150	150 W	
	200	200 W	
	240	240 W	
	350	350 W	
	480	480 W	
	600	600 W	
	800	800 W	
1	-	Single phase input	Input type
☐	-	Basic model	Optional features
	F	Power factor correction	
☐	-	Standard model	
	C	Compact size	

Selection guide

	Output power										
Output Voltage	25 W	30 W	35 W	40 W	45 W	50 W	55 W	60 W	65 W	70 W	75 W
12 VDC	SPPM12251	SPPM12351		SPPM12501			SPPM12751				
24 VDC	SPPM24251	SPPM24351		SPPM24501			SPPM24751				
48 VDC	-										

	Output power						
Output Voltage	80 W	90 W	100 W	150 W	200 W	240 W	300 W
12 VDC	-		SPPM121001FC	SPPM121501	SPPM122001FC	SPPM122401FC	SPPM123501FC
24 VDC	-		SPPM241001FC	SPPM241501	SPPM242001FC	SPPM242401FC	SPPM243501FC
48 VDC	-						

	Output power				
Output Voltage	400 W	500 W	600 W	700 W	800 W
12 VDC	SPPM124801FC		SPPM126001FC	-	
24 VDC	SPPM244801FC		SPPM246001FC	SPPM248001FC	
48 VDC	-			SPPM488001FC	

Further reading

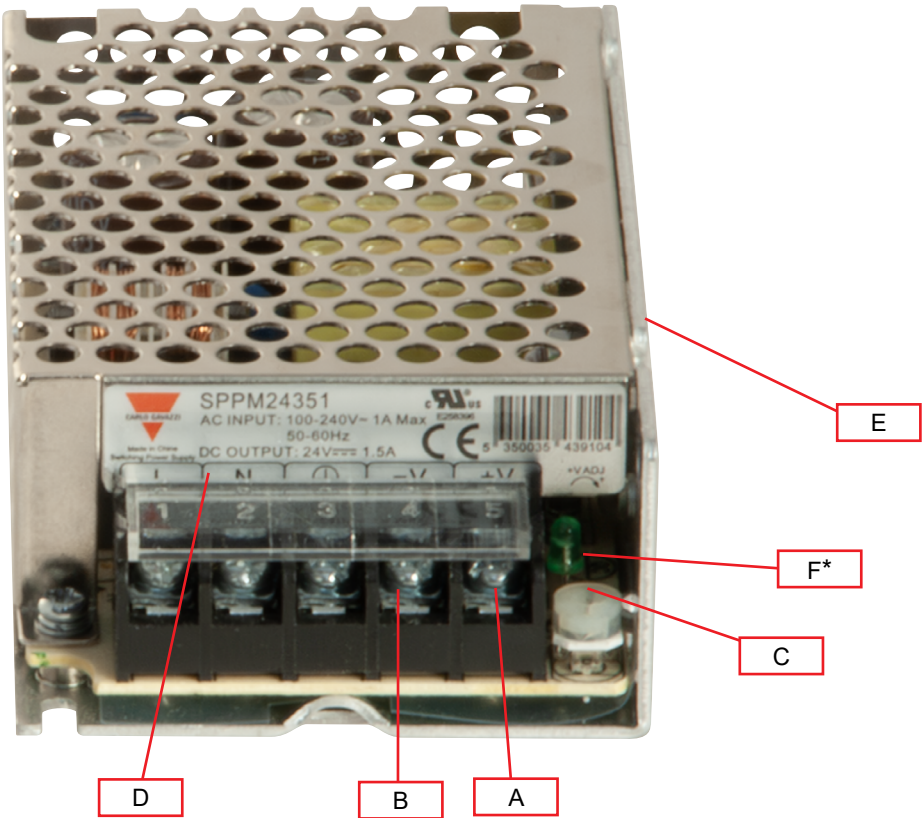
Information	Where to find it	QR
SPPM Datasheet	www.gavazziautomation.com/fileadmin/images/PIM/DATASHEET/ENG/SPPM_DS_ENG.pdf	
SPPM Installation sheet	www.gavazziautomation.com/fileadmin/images/PIM/MANUALS/ENG/SPPM_IM.pdf	

SPPM



Structure

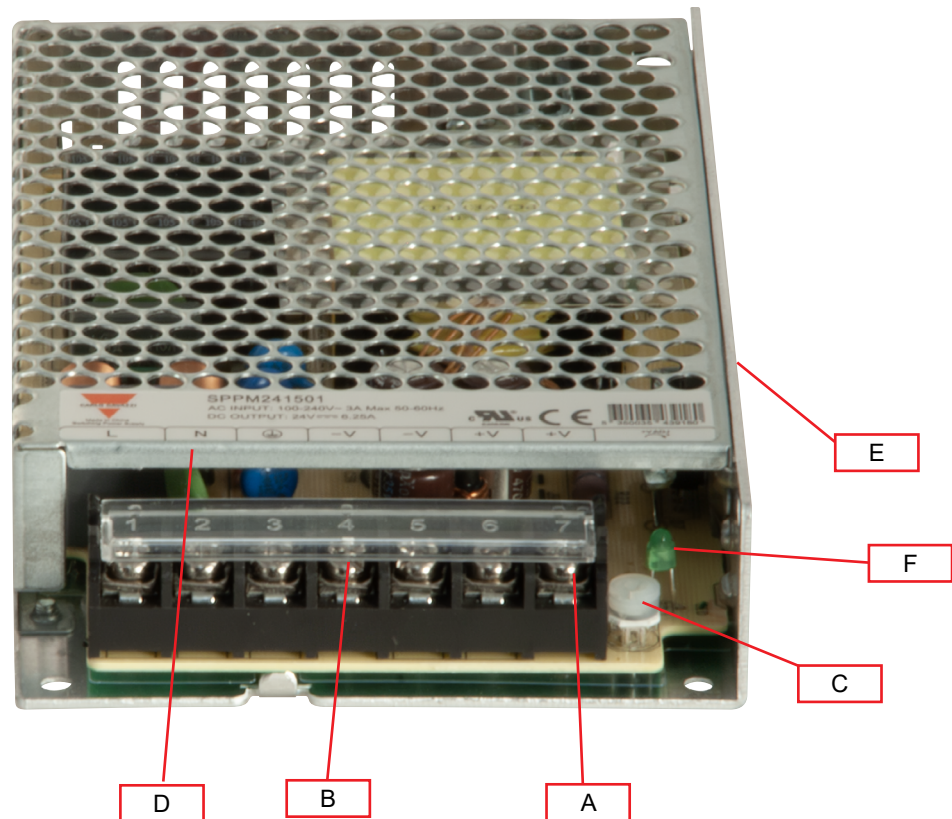
SPPM 25W / 35W / 50W / 75W / 100W



SPPM 25W / 35W / 50W / 75W / 100W		
Element	Component	Function
A	+ V terminals	Positive DC output terminals
B	- V terminals	Negative DC output terminals
C	VADJ Trimmer	Output voltage adjustment
D	Power supply terminals	L, N supply terminals + GND
E	Wall Mounting Predisposition	Predispositions present on two sides
F*	LED	LED indication of Power Supply status

* Not available for 25W

SPPM 150W

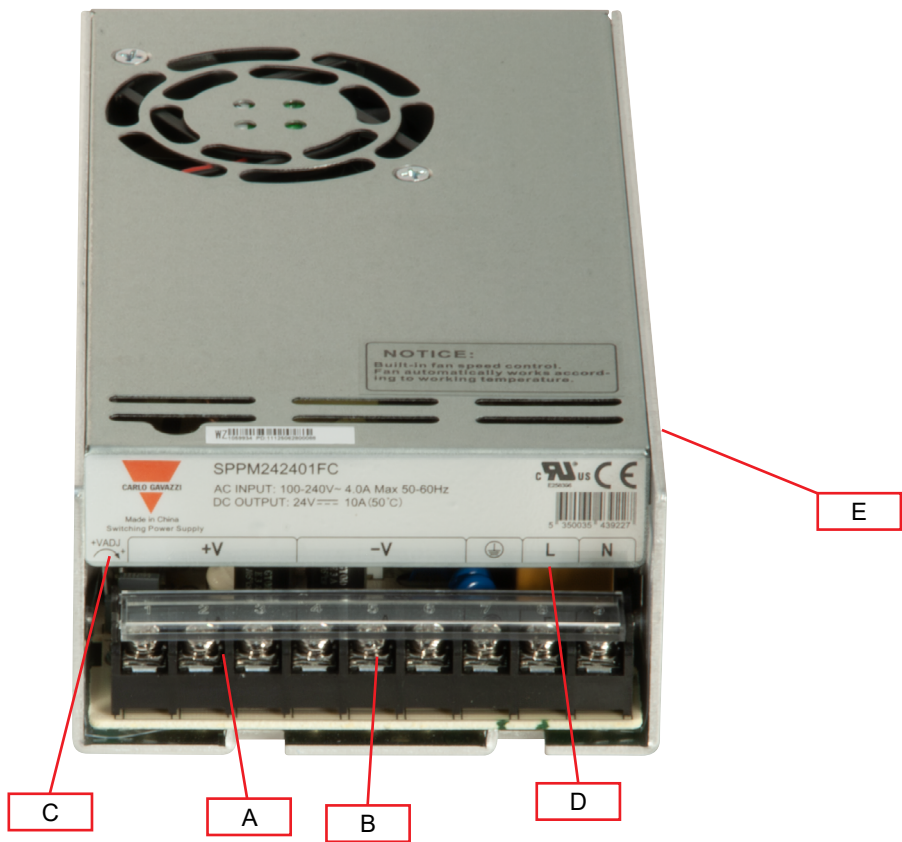


SPPM 150W		
Element	Component	Function
A	+ V terminals	Positive DC output terminals
B	- V terminals	Negative DC output terminals
C	VADJ Trimmer	Output voltage adjustment
D	Power supply terminals	L, N supply terminals + GND
E	Wall Mounting Predisposition	Predispositions present on two sides
F	LED	LED indication of Power Supply status

SPPM



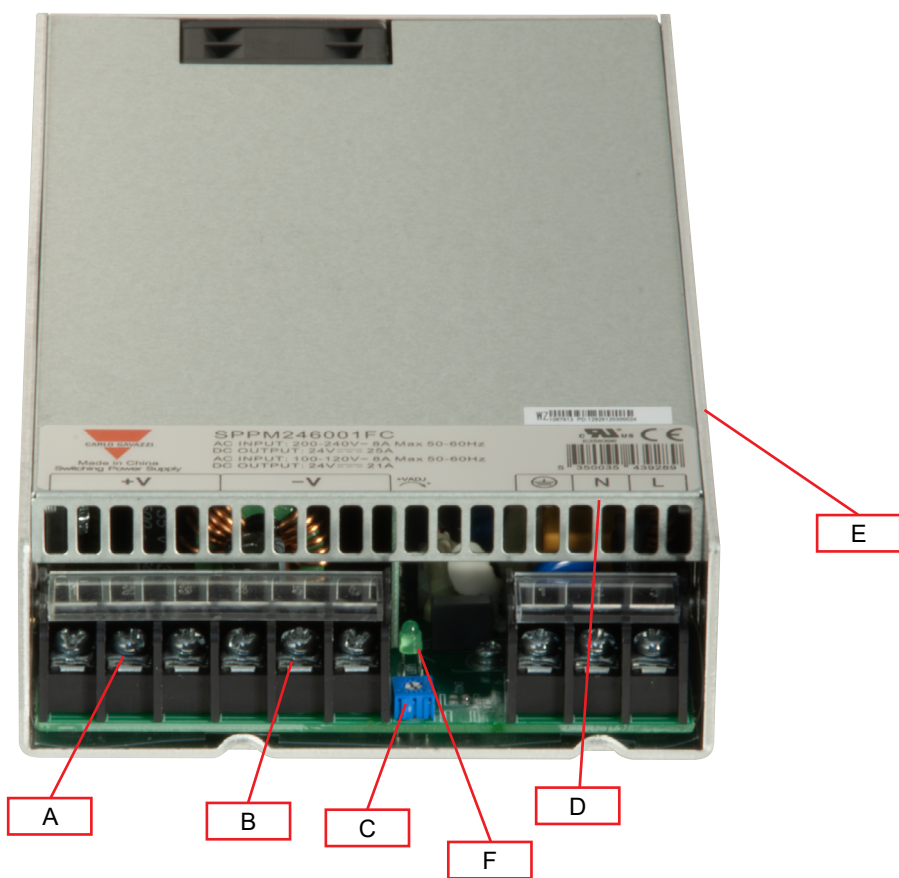
SPPM 200W / 240W / 350W



SPPM 200W / 240W / 350W		
Element	Component	Function
A	+ V terminals	Positive DC output terminals
B	- V terminals	Negative DC output terminals
C	VADJ Trimmer	Output voltage adjustment
D	Power supply terminals	L, N supply terminals + GND
E	Wall Mounting Predisposition	Predispositions present on two sides

SPPM

SPPM 600W

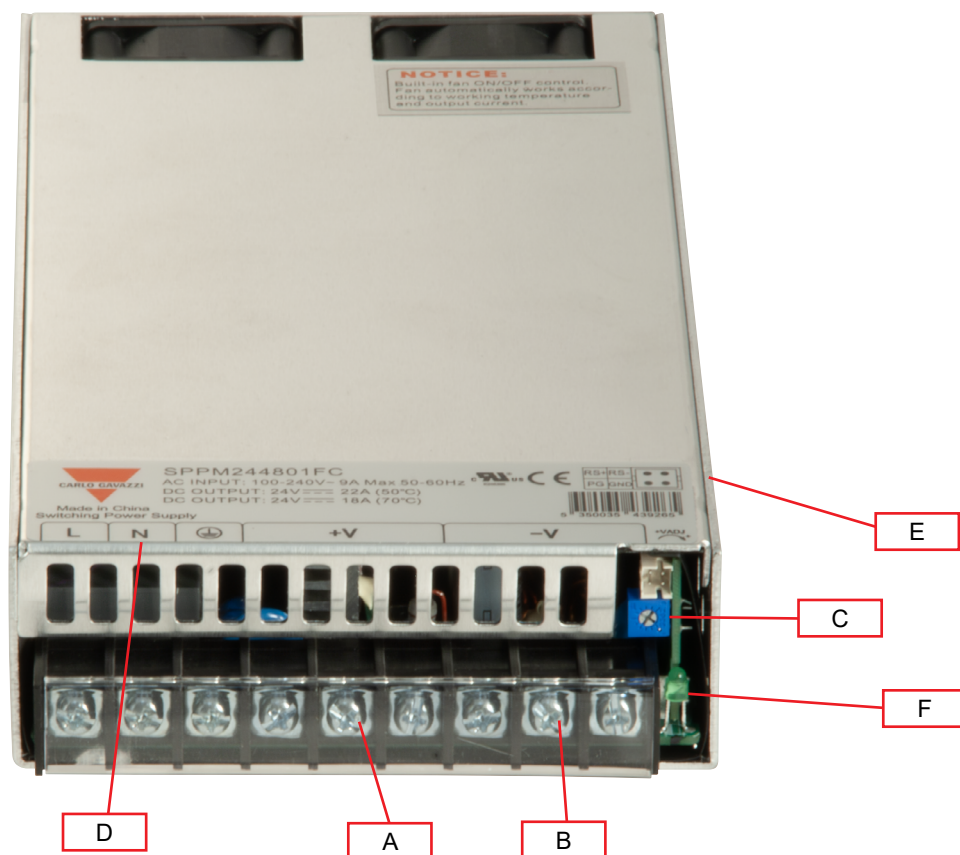


SPPM 600W		
Element	Component	Function
A	+ V terminals	Positive DC output terminals
B	- V terminals	Negative DC output terminals
C	VADJ Trimmer	Output voltage adjustment
D	Power supply terminals	L, N supply terminals + GND
E	Wall Mounting Predisposition	Predispositions present on two sides
F	LED	LED indication of Power Supply status

SPPM



SPPM 480W / 800W



SPPM 480W / 800W

Element	Component	Function
A	+ V terminals	Positive DC output terminals
B	- V terminals	Negative DC output terminals
C	VADJ Trimmer	Output voltage adjustment
D	Power supply terminals	L, N supply terminals + GND
E	Wall Mounting Predisposition	Predispositions present on two sides
F	LED	LED indication of Power Supply status

Features

General data

		SPPM..25	SPPM..35	SPPM..50	SPPM..75	SPPM..100	SPPM..150
Leakage current (input - output)		< 0.5mA	< 0.25mA		< 0.75mA	< 0.25mA	< 0.75mA
Earth leakage current (input - PG)		< 0.5mA	< 3.5mA	< 3.5mA	< 0.75mA	< 3.5mA	< 0.75mA
Efficiency @230VAC	Output voltage 12 VDC	85 %	84 %	86 %	88 %	87 %	84 %
	24 VDC	86 %	87.5 %	88 %	90 %	88 %	88 %
Power factor (full load) 110 VAC 230 VAC		-				> 0.98 > 0.93	-
Ingress protection		IP 20					
MTBF (MIL-HDBK-217F)		> 200,000 hours	> 200,000 hours	> 200,000 hours	> 200,000 hours	> 200,000 hours	> 200,000 hours
Case material		Metal					
Weights		0.15 kg (0.33 lb)	0.19 kg (0.42 lb)	0.25 kg (0.55 lb)	0.366 kg (0.8 lb)	0.425 kg (0.93 lb)	0.4 kg (0.88 lb)
Switching frequency		65 kHz					
Mounting		Panel					

(All specifications are at nominal values, full load, 25°C unless otherwise stated)

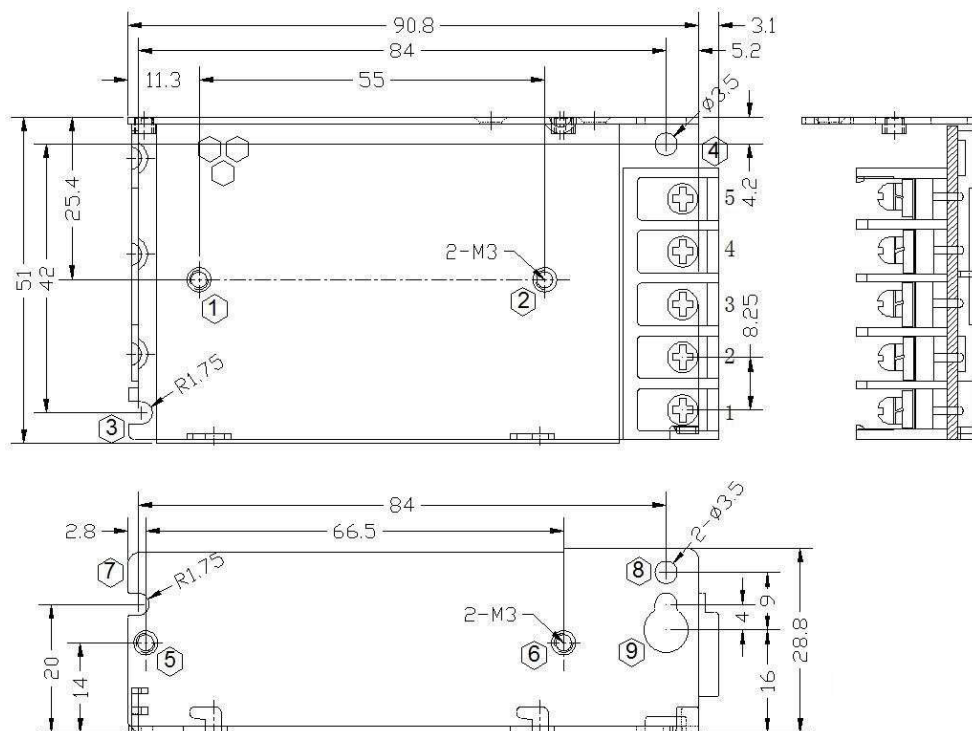
		SPPM..200	SPPM..240	SPPM..350	SPPM..480	SPPM..600	SPPM..800
Leakage current (input - output)		< 0.25 mA	< 0.25 mA	< 0.25 mA	< 0.25 mA	< 0.25 mA	< 0.25 mA
Earth leakage current (input - PG)		< 3.5 mA	< 3.5 mA	< 3.5 mA	< 3.5 mA	< 3.5 mA	< 3.5 mA
Efficiency @115VAC	Output voltage 12 VDC	86 %	83 %	85 %	84 %	88 %	-
	24 VDC	87 %	84 %	86 %	86 %	90 %	87 %
	48 VDC	-	-	-	-	-	87%
Efficiency @230VAC	12 VDC	89 %	84 %	88 %	84%	90%	-
	24 VDC	90 %	86 %	89 %	89 %	91 %	89 %
	48 VDC	-	-	-	-	-	89 %
Power factor (full load)							
110 VAC		> 0.98	> 0.98	> 0.98	> 0.98	> 0.98	> 0.98
230 VAC		> 0.95	> 0.95	> 0.95	> 0.96	> 0.95	> 0.96
Ingress protection		IP 20					
MTBF (MIL-HDBK-217F)		> 100,000 hours					
Case material		Metal					
Weights		0.65 kg (1.43 lb)	0.82 kg (1.80 lb)	0.693 kg (1.52 lb)	1.13 kg (2.49 lb)		1.22 kg (2.69 lb)
Switching frequency		65 kHz			100 kHz		
Mounting		Panel					

(All specifications are at nominal values, full load, 25°C unless otherwise stated)

Dimensions

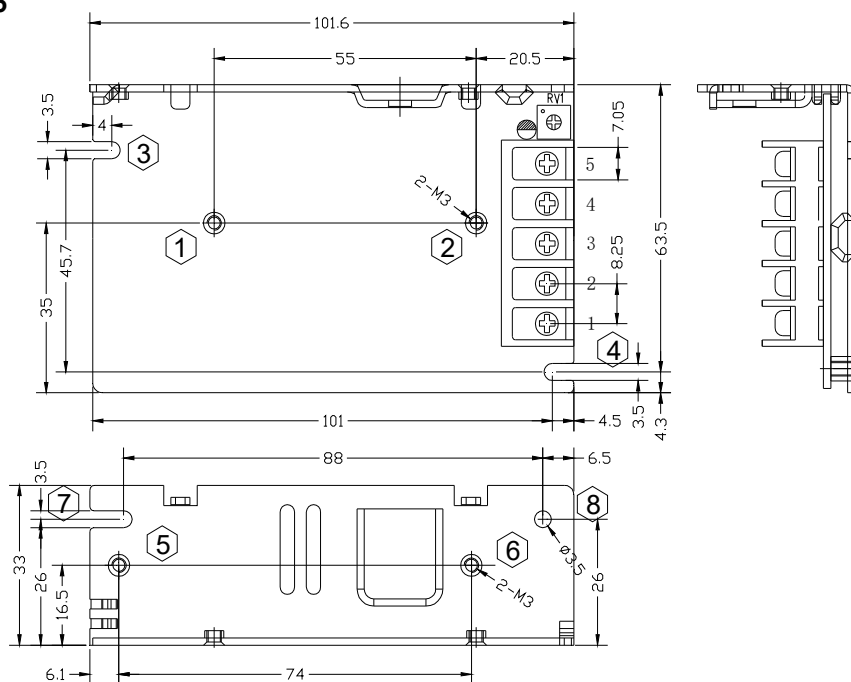
SPPM..25

Unit: mm



SPPM..35

Unit: mm

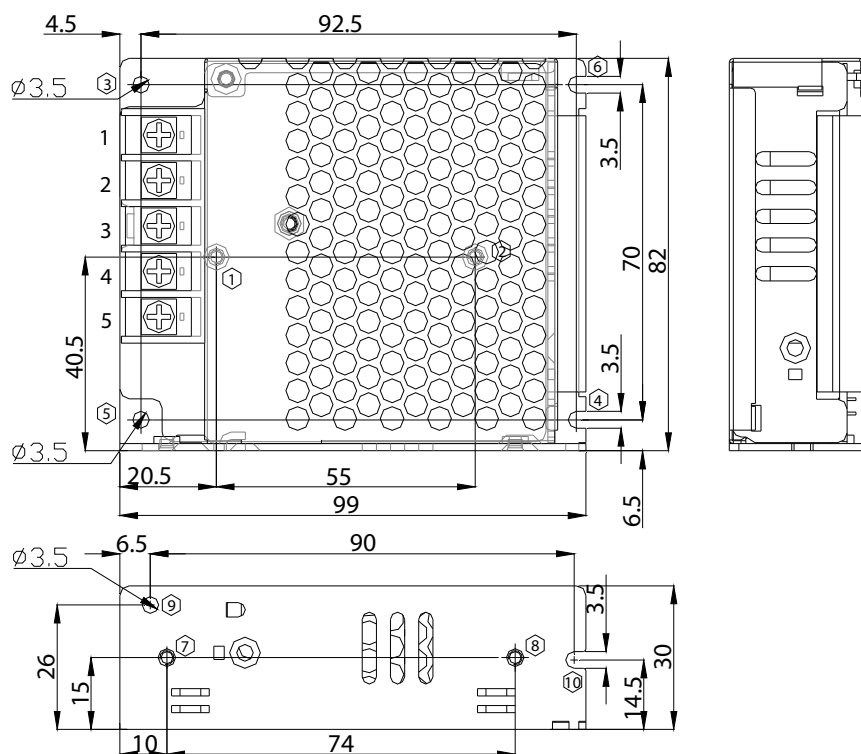


SPPM



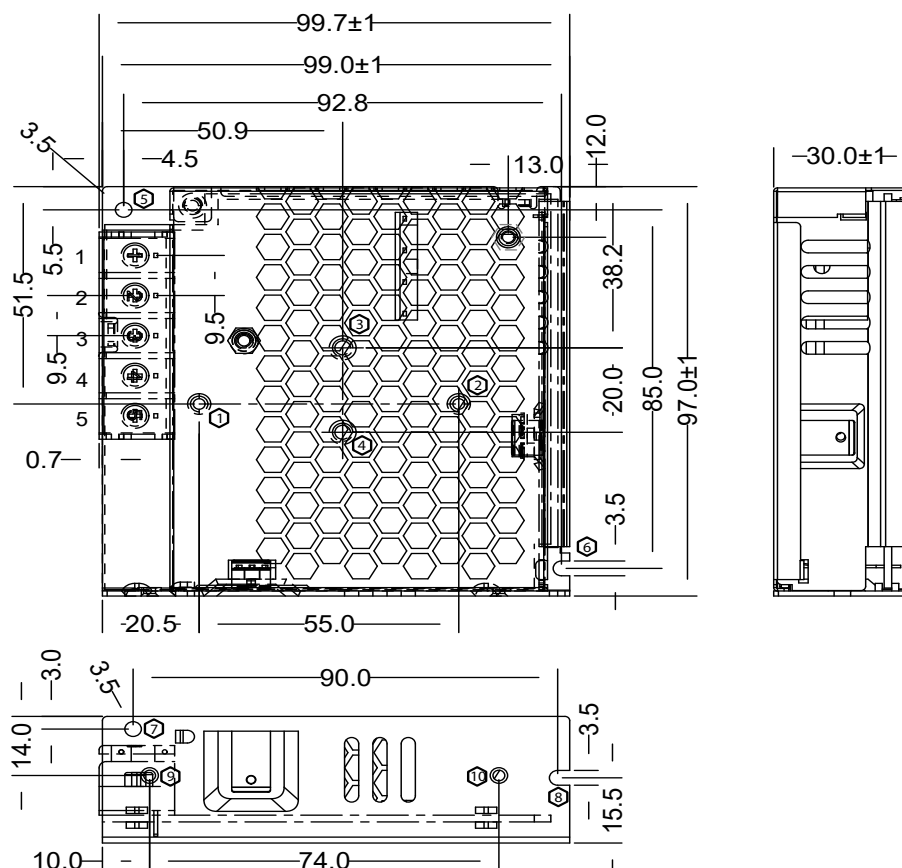
SPPM..50

Unit: mm

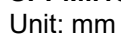


SPPM..75

Unit: mm



Unit: mm

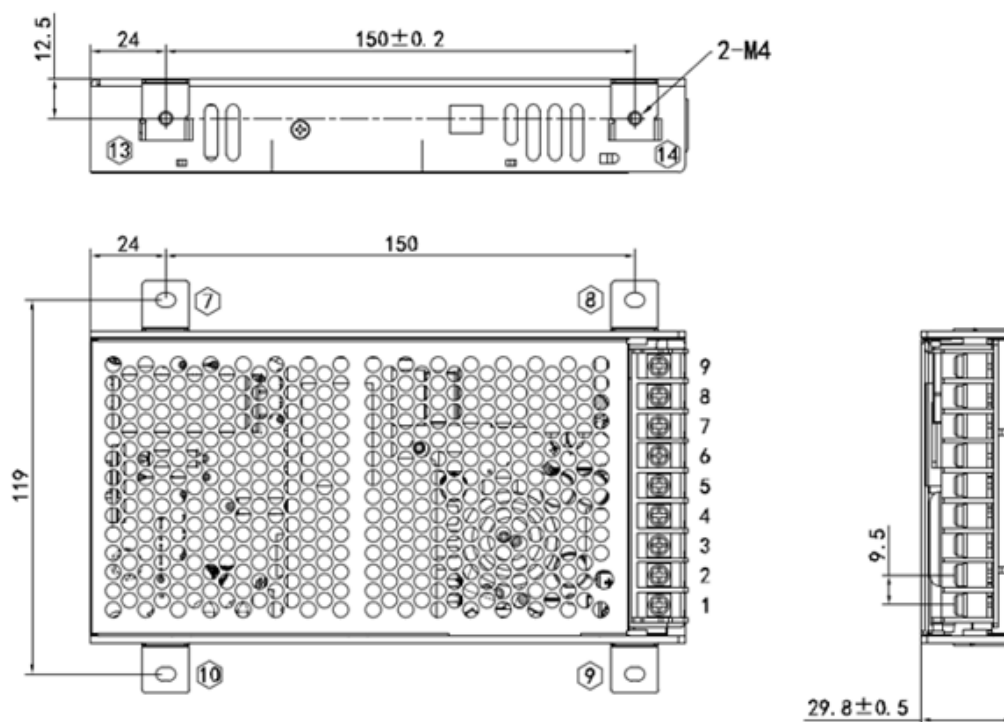


SPPM



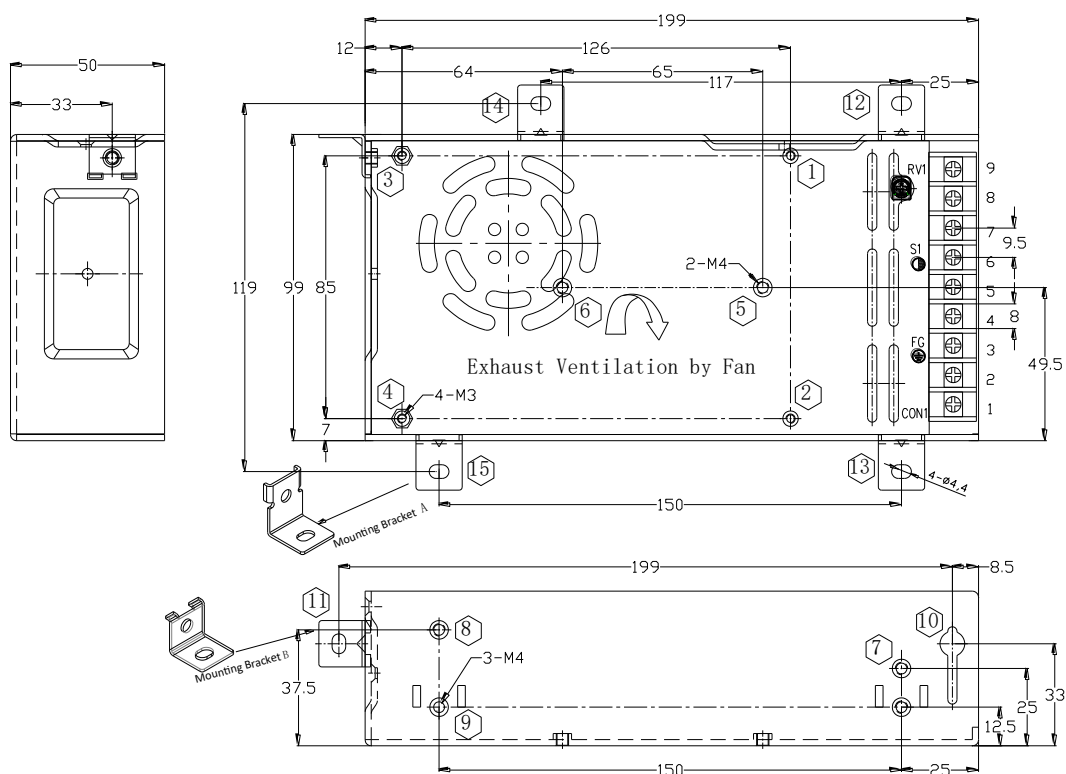
SPPM..200

Unit: mm



SPPM..240

Unit: mm

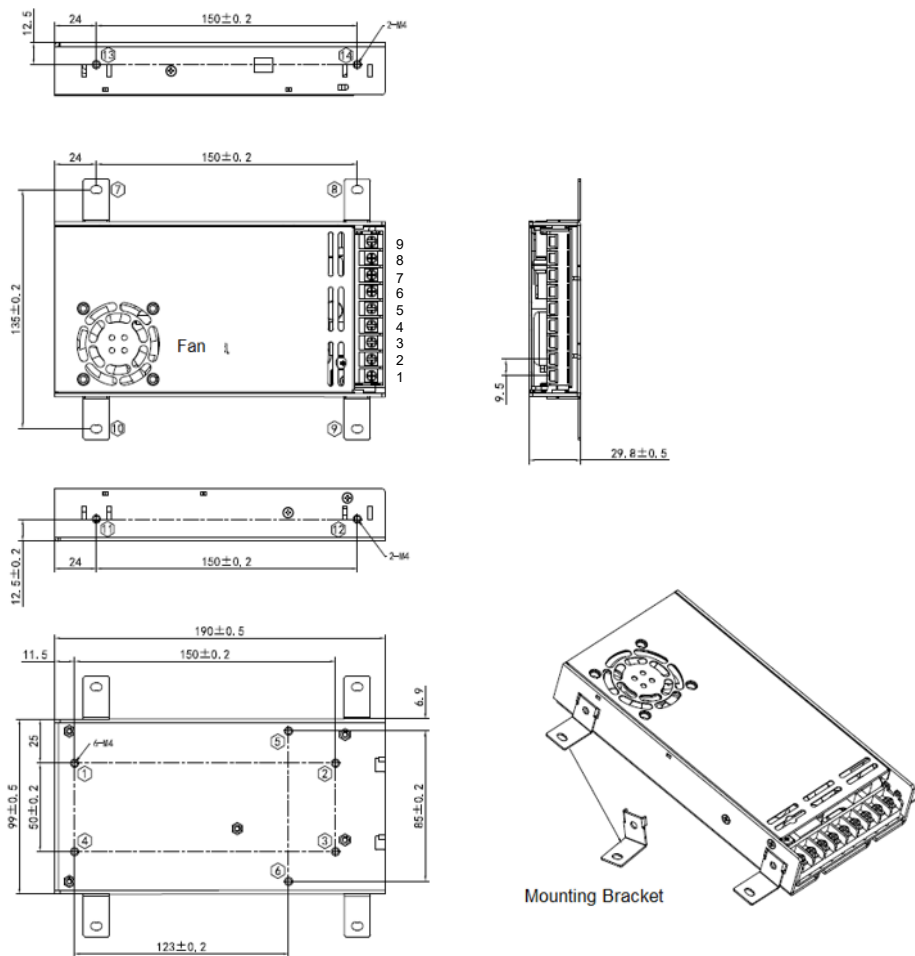


SPPM



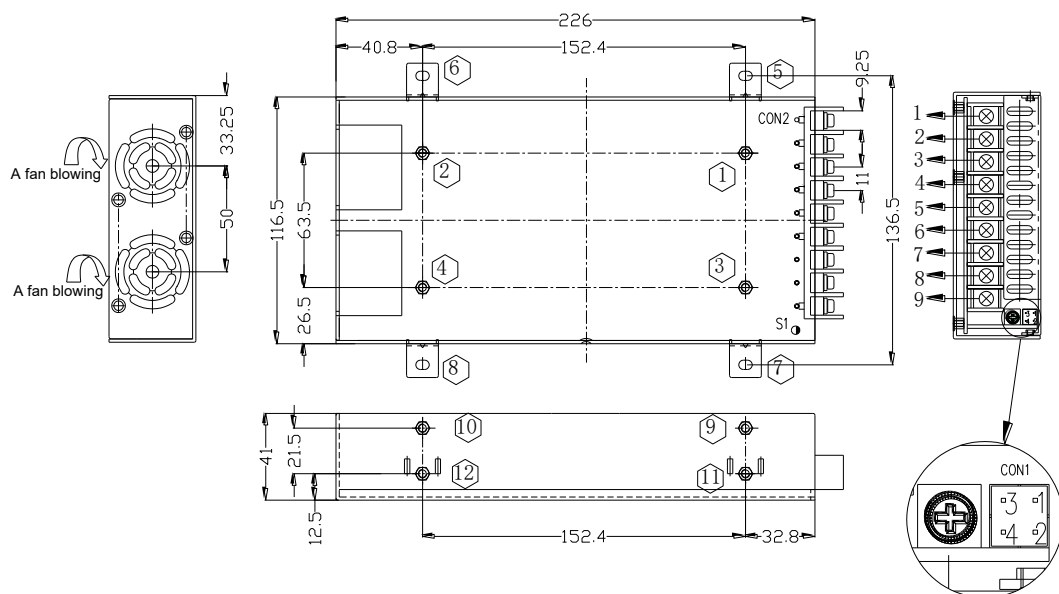
SPPM..350

Unit: mm



SPPM 480

Unit: mm

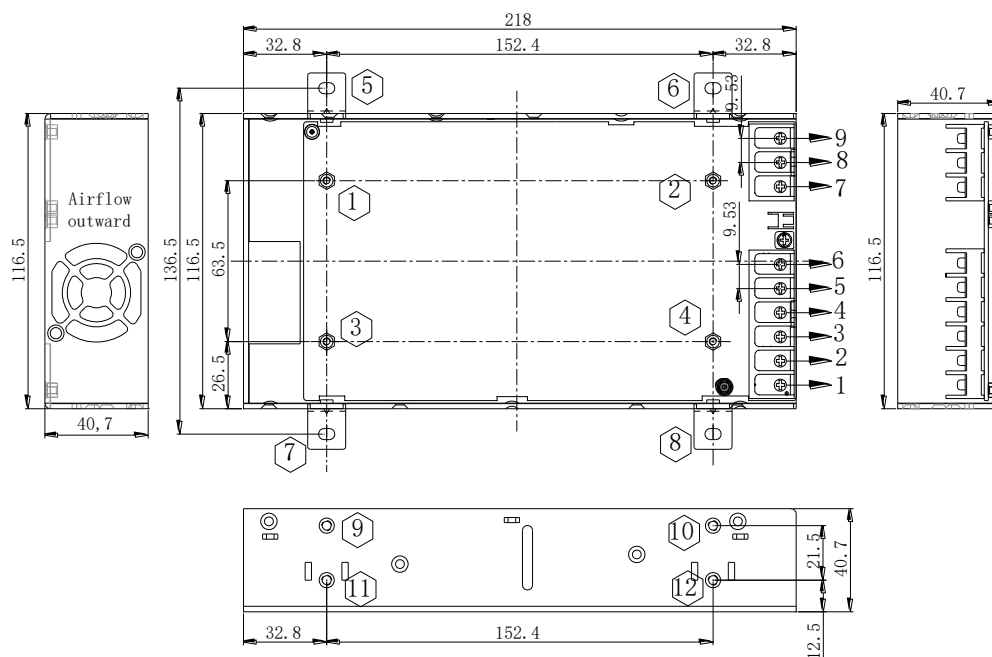


SPPM



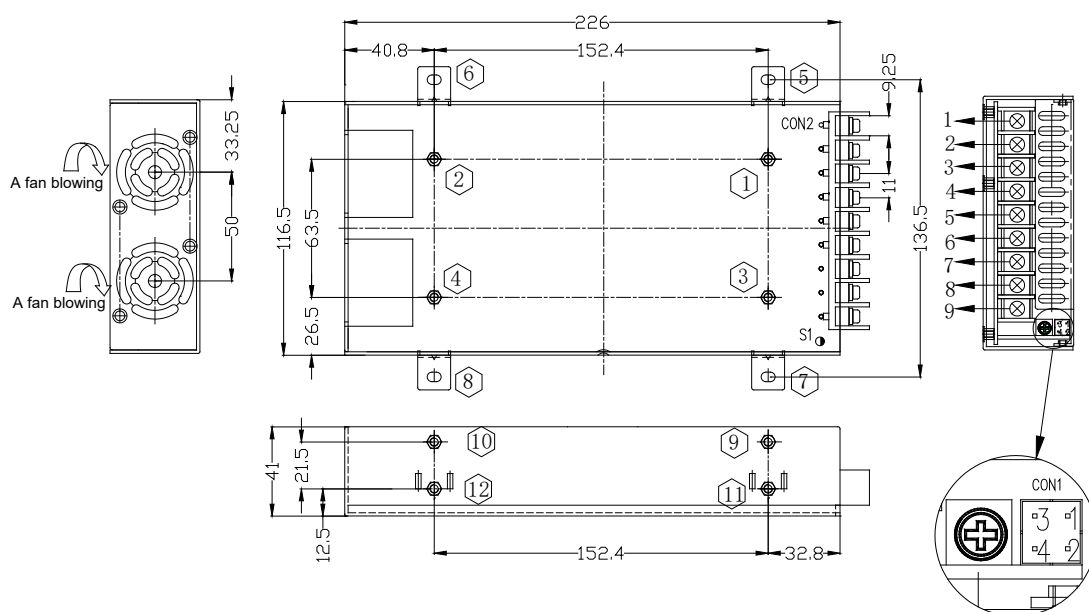
SPPM 600

Unit: mm



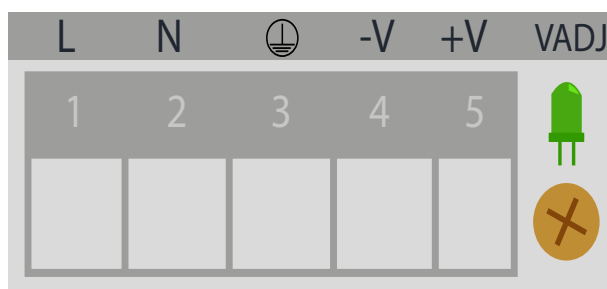
SPPM 800

Unit: mm



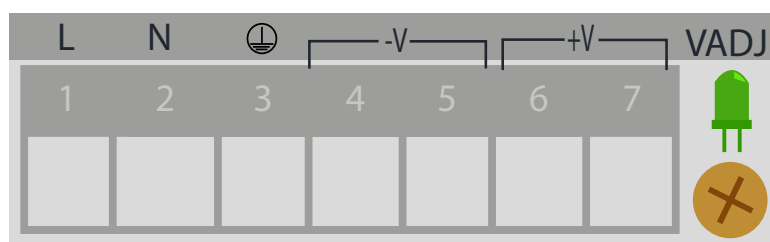
Connection diagram

Terminal markings



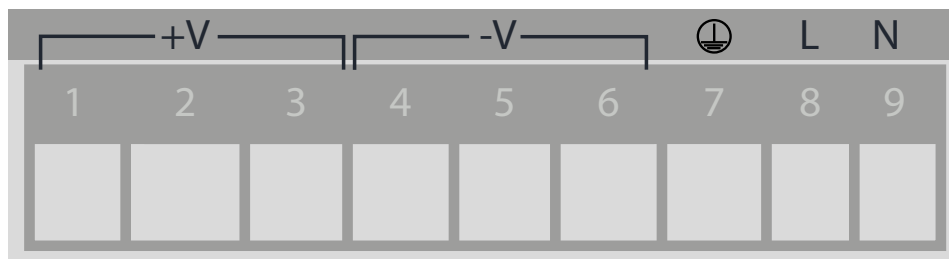
SPPM 25W / 35W / 50W / 75W / 100W

Terminal	Designation	Description
1	L	Input terminals (phase conductor, no polarity with DC input)
2	N	Input terminals (neutral conductor, no polarity with DC input)
3	Ground	Ground this terminal to minimize high frequency emissions
4	V-	Negative output terminal
5	V+	Positive output terminal
	Vout ADJ	Potentiometer for output voltage adjustment
	DC Status	LED indication of power supply output status



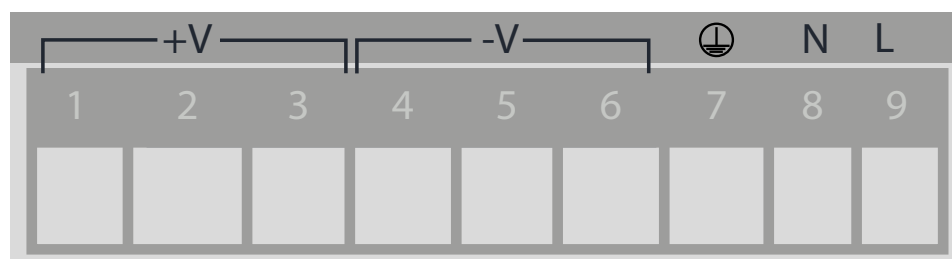
SPPM 150W

Terminal	Designation	Description
1	L	Input terminals (phase conductor, no polarity with DC input)
2	N	Input terminals (neutral conductor, no polarity with DC input)
3	Ground	Ground this terminal to minimize high frequency emissions
4, 5	V-	Negative output terminal
6, 7	V+	Positive output terminal
	Vout ADJ	Potentiometer for output voltage adjustment
	DC Status	LED indication of power supply output status



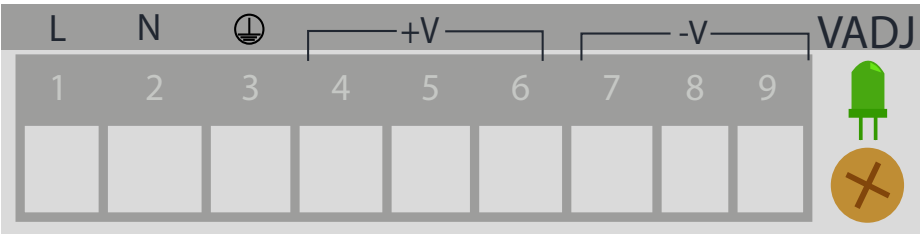
SPPM 200W / 240W / 350W

Terminal	Designation	Description
1, 2, 3	V+	Positive output terminal
4, 5, 6	V-	Negative output terminal
7	Ground	Ground this terminal to minimize high frequency emissions
8	L (N for 6001)	Input terminals (phase conductor, no polarity with DC input)
9	N (L for 6001)	Input terminals (neutral conductor, no polarity with DC input)



SPPM 600W

Terminal	Designation	Description
1, 2, 3	V+	Positive output terminal
4, 5, 6	V-	Negative output terminal
7	Ground	Ground this terminal to minimize high frequency emissions
8	N	Input terminals (phase conductor, no polarity with DC input)
9	L	Input terminals (neutral conductor, no polarity with DC input)



SPPM 480W / 800W

Terminal	Designation	Description
1	L	Input terminals (phase conductor, no polarity with DC input)
2	N	Input terminals (neutral conductor, no polarity with DC input)
3	Ground	Ground this terminal to minimize high frequency emissions
4, 5, 6	V+	Positive output terminal
7, 8, 9	V-	Negative output terminal
	DC Status	LED indication of power supply output status
	Vout ADJ	Potentiometer for output voltage adjustment

Environmental

SPPM	SPPM..25	SPPM..35	SPPM..50	SPPM..75	SPPM..100	SPPM..150
Operating temperature range	-20°C to 70°C (-4°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-30°C to 70°C (-22°F to 158°F)		-20°C to 60°C (-4°F to 140°F)	-30°C to 70°C (-22°F to 158°F)
Storage temperature	-25°C to 85°C (-13°F to 185°F)	-40°C to 85°C (-40°F to 185°F)				
Humidity	20%~90% RH no condensing					
Temperature derating	50°C (122°F)	55°C (131°F)	50°C (122°F)	50°C (122°F)	40°C (104°F)	45°C (104°F)
Temperature regulation	±0.05 % / °C (±32.054% / °F)					

SPPM	SPPM..200	SPPM..240	SPPM..350	SPPM..480	SPPM..600	SPPM..800
Operating temperature range	-30°C to 70°C (-22°F to 158°F)	-25°C to 65°C (-13°F to 149°F)	-30°C to 70°C (-22°F to 158°F)	-30°C to 70°C (-22°F to 158°F)	-20°C to 70°C (-4°F to 158°F)	-30°C to 70°C (-22°F to 158°F)
Temperature storage	-40°C to +85°C (-49°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to +85°C (-4°F to 194°F)	-40°C to 85°C (-40°F to 185°F)		
Humidity	20%~90% RH no condensing		20%~90% RH no condensing			
Temperature derating	45°C (113 °F)	50°C (122°F)				
Temperature regulation	±0.03% / °C (±32.054% / °F)					

Compatibility and conformity

SPPM	SPPM..25	SPPM..35	SPPM..50	SPPM..75	SPPM..100	SPPM..150
Safety standards	UL/IEC/EN 62368-1 GB 4943.1	UL/IEC/EN 62368-1 GB 4943.1	UL/IEC/EN 62368-1 GB 4943.1	UL/IEC/EN 62368-1 GB 4943.1	UL/IEC/EN 62368-1	UL/IEC/EN 62368-1 GB 4943.1
EMC Emission: EMI conductor & radiation EMS immunity	EMI Conduction & Radiation Compliance to EN 55032 Class B EMS Immunity Compliance to EN61000 -4 -2, 3, 4, 5, 6, 8, 11					
Harmonic current	EN IEC 61000-3-2 Class A					-
EMC immunity	EN 55032 Class B					EN 55032 Class B FCC Part 15, Subpart B, Class B
CE	CE approved					
UL Certification	UL approved					
Vibration resistance	-	10 ~ 500 Hz, 2G 10 min./1 cycle, period for 60min. each along X, Y, Z axes				
Shock resistance	20 G, 11 ms, 3 times along X, Y, Z axes					

SPPM	SPPM..200	SPPM..240	SPPM..350	SPPM..480	SPPM..600	SPPM..800
Safety standards	UL/IEC/EN 62368-1 GB 4943.1	UL/IEC/EN 62368-1 GB 4943.1	UL/IEC/EN 62368-1 GB 4943.1	UL/IEC 60950-1 EN 62368-1 GB 4943.1	UL 60950-1 IEC/EN 62368-1	UL/IEC 60950-1 EN 62368-1 GB 4943.1
EMC Emission: EMI conduction & radiation EMS immunity	EMI Conduction & Radiation Compliance to EN 55032 Class B EMS Immunity Compliance to EN 61000 -4 -2, 3, 4, 5, 6, 8, 11					
Harmonic current	EN IEC 61000-3-2 Class A					
EMC immunity	EN 55032 Class B FCC Part 15, Subpart B, Class B	EN 55032 Class B	EN 55032 Class B FCC Part 15, Subpart B, Class B	EN 55032 Class B		
CE	CE approved					
UL Certification	UL approved					
Vibration resistance	10 ~ 500 Hz, 2G 10 min. / 1 cycle, period for 60 min. each along X, Y, Z axes			10 ~ 150 Hz, 2G 10 min. / 1 cycle, period for 60 min. each along X, Y, Z axes		10 ~ 500 Hz, 2G 10 min. / 1 cycle, period for 60 min. each along X, Y, Z axes
Shock resistance	20 G / 11 ms pulse, 3 times at each X, Y, Z axes					

Insulation

SPPM	SPPM..25	SPPM..35	SPPM..50	SPPM..75	SPPM..100	SPPM..150
Insulation / withstand voltage (I/PE)	1.5k VAC/10mA. test time 1 minute	Primary-PG: 1.5k VAC/10mA	1.5k VAC/10mA	2.0k VAC/10mA	1.5k VAC/10mA	Primary-PG: 1.5k VAC/10mA;
Insulation / withstand voltage (I/O)	3.0k VAC/10mA, test time 1 minute	Primary- Secondary: 3.0k VAC/10mA	3.0kVAC/10mA	4.0k VAC/10mA	3.0k VAC/10mA	Primary- Secondary: 3k VAC/10mA;
Insulation / withstand voltage (O/PE)	0.5k VDC/10mA, test time 1 minute	Secondary-PG: 0.5k VDC/10mA, test time 1 minute	0,5k VDC/10mA; Test Time: 1min each	1,25k VAC/10mA; Test Time: 1 min each	0.5k VDC/10mA	Secondary-PG: 0.5k VDC/10mA; Test Time: 1min each
Insulation resistance	100M ohms	50M ohms			10M ohms	50M ohms
Overvoltage category	II					
Pollution degree	-					

SPPM	SPPM..200	SPPM..240	SPPM..350	SPPM..480	SPPM..600	SPPM..800
Insulation / withstand voltage (I/PE)	Primary-PG: 1.5k VAC/10mA test time 1 minute	Primary-PG: 1.5k VAC/10mA test time 1 minute	Primary-PG: 1.5k VAC/10mA test time 1 minute	Primary-PG: 1.5k VAC/10mA test time 1 minute	Primary-PG: 1.5k VAC/10mA test time 1 minute	Primary-PG: 1.5k VAC/10mA test time 1 minute
Insulation / withstand voltage (I/O)	Primary- Secondary: 3.0k VAC/10mA test time 1 minute	Primary- Secondary: 3.0k VAC/10mA test time 1 minute	Primary- Secondary: 3.0k VAC/10mA test time 1 minute	Primary- Secondary: 3.0k VAC/10mA test time 1 minute	Primary- Secondary: 3.0k VAC/10mA test time 1 minute	Primary- Secondary: 3.0k VAC/10mA test time 1 minute
Insulation / withstand voltage (O/PE)	Secondary-PG: 0.5k VAC/10mA test time 1 minute	Secondary-PG: 0.5k VAC/10mA test time 1 minute	Secondary-PG: 0.5k VAC/10mA test time 1 minute	Secondary-PG: 0.5k VAC/10mA test time 1 minute	Secondary-PG: 0.5k VAC/10mA test time 1 minute	Secondary-PG: 0.5k VAC/10mA test time 1 minute
Insulation resistance	100 ohms				10M ohms	
Overvoltage category	II					
Pollution degree	2					

Input data

SPPM	SPPM..25	SPPM..35	SPPM..50	SPPM..75	SPPM..100	SPPM..150
Rated input voltage	100 VAC / 240 VAC					
Input voltage range	90 VAC / 264 VAC 130 VDC / 370 VDC	88 VAC / 264 VAC 130 VDC / 370 VDC	90 VAC / 264 VAC 130-370 VDC	90 VAC / 264 VAC 130 VDC / 370 VDC	90 VAC / 264 VAC 120 / 370 VDC	90 VAC / 264 VAC
AC current (max) 115 VAC 230 VAC	- < 0.7 A	< 1 A -	< 1 A -	< 1.8 A < 1.0 A	< 1.5 A -	< 3 A -
Frequency range	47 Hz ~ 63 Hz					
Inrush current 115 VAC 230 VAC	- < 45 A	- < 50 A	- < 60 A	- < 65 A	< 30 A < 50 A	- < 40 A
Internal input fuse	2A / 250 VAC	3.15A / 250 VAC		5 A / 250 VAC		

SPPC	SPPM..200	SPPM..240	SPPM..350	SPPM..480	SPPM..600	SPPM..800
Rated input voltage	100 VAC / 240 VAC					
Input voltage range	88 VAC / 264 VAC 120 VDC / 370 VDC	90 VAC / 264 VAC 120 VDC / 370 VDC	88 VAC / 264 VAC 120 VDC / 370 VDC	90 VAC / 264 VAC 120 VDC / 250 VDC	90 VAC / 264 VAC 120 VDC / 370 VDC	90 VAC / 264 VAC 120 VDC / 250 VDC
AC current (max) 115 VAC 230 VAC	< 3 A < 1.5 A	< 4.0 A -	< 4 A < 2 A	< 7 A -	< 8 A -	< 12 A -
Frequency range	47 Hz ~ 63 Hz					
Inrush current 115 VAC 230 VAC	- < 65 A	< 30 A < 50 A	- < 90 A	- < 20 A	- < 40 A	< 20 A
Internal input fuse	6.3 A / 250 VAC			10 A / 250 VAC		15 A / VAC

(All specifications are at nominal values, full load, 25°C unless otherwise stated)

Output data

SPPM		SPPM..25	SPPM..35	SPPM..50	SPPM..75	SPPM..100	SPPM..150
Rated output power at different output voltages and currents	12 VDC	25.2 W	36 W	50.4 W	72 W	102 W	150 W
	24 VDC	26.4 W	36 W	50.8 W	76.8 W	108 W	150 W
Voltage accuracy		±2%	±3%	±3%	±1%	±2%	±1%
Line regulation		±1%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
Load regulation		±2%	±1%	±1%	±0.5%	±2%	±0.5%
Voltage regulation span		-10%~10%	-5%~10%	-10%~10%		-5%~10%	-10%~10%
Rated output current at different output voltages	12 VDC	2.1 A	3 A	4.2 A	6 A	8.5 A	12.5 A
	24 VDC	1.1 A	1.5 A	2.1 A	3.2 A	4.5 A	6.25 A
Ripple and noise at different output voltages ^{*Note}	12 VDC	< 120 mV	< 80 mV- < 180 mV	< 120 mV- < 200 mV	< 120 mV- < 240 mV	< 150 mV	< 150 mV
	24 VDC	< 120 mV	< 120 mV- < 200 mV	< 200 mV- < 360 mV	< 150 mV- < 300 mV	< 150 mV	< 200 mV
Hold up time							
115 VAC 230 VAC		- > 20 ms	> 10 ms > 20 ms	- > 30 ms	- > 40 ms	- > 12 ms	- > 20 ms
Set up time							
115 VAC 230 VAC		- < 2 s	- < 1 s	- < 1 s	- < 2.5 s	- < 2 s	- < 2 s
Turn-on overshoot		<+5%					
Overshoot and undershoot		<5%					
Series operation		Support					
Parallel operation		No					
Power boost		No					

*NOTE: Measured at 20 MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 uF and 10 uF parallel capacitor

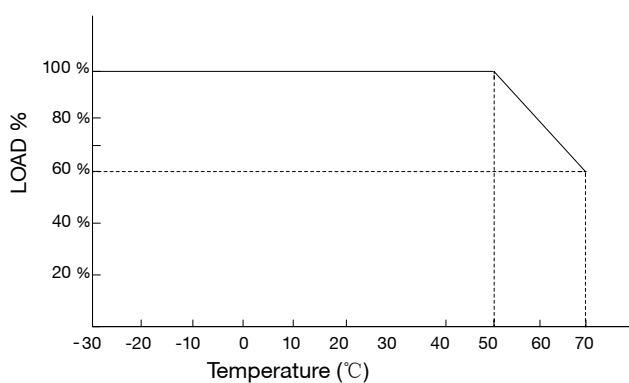
SPPM		SPPM..200	SPPM..240	SPPM..350	SPPM..480	SPPM..600	SPPM..800
Rated output power at different output voltages and currents	12 VDC	200.4 W	240 W	350 W	480 W	600 W	-
	24 VDC	199.2 W	240 W	350 W	480 W	600 W	792 W
	48 VDC	-	-	-	-	-	792 W
Voltage accuracy		±1%	±1%	±1%	±1%	±3%	±1%
Line regulation		±0.5%	±0.5%	±0.5%	±0.5%	±1%	±0.5%
Load regulation		±1%	±1%	±1%	±1%	±2%	±1%
Voltage regulation span		-10%~10%	-5%~+10%	-10%~+10%	-4.16%~+6.66%	-2.5%~+10%	-10%~+10%
Rated output current at different output Voltages	12 VDC	16.7 A	20 A	29.2 A	34 A	50 A	-
	24 VDC	8.3 A	10 A	14.5 A	22 A	25 A	33 A
	48 VDC	-	-	-	-	-	16.5
Ripple and noise at different output voltages *Note	12 VDC	< 150 mV	< 150 mV	< 150 mV	< 150 mV	< 120 mV	-
	24 VDC	< 150 mV	< 200 mV	< 150 mV	< 150 mV	< 120 mV	< 200 mV
	48 VDC	-	-	-	-	-	< 200 mV
Hold up time	115 VAC	-	-	-	-	-	-
	230 VAC	> 10 ms	> 10 ms	> 8 ms	> 10 ms	> 10 ms	> 8 ms
Set up time	115 VAC	< 3 s	-	< 3 s	< 5 s	-	< 3 s
	230 VAC	< 1.5 s	< 2 s	< 1.5 s	< 3 s	< 2 s	< 1.5 s
Turn-on overshoot		<+5%					
Overshoot and undershoot		<5%					
Series operation		Support					
Parallel operation		No					
Power boost		No					

*NOTE: Measured at 20 MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 uF and 10 uF parallel capacitor
(All specifications are at nominal values, full load, 25°C unless otherwise stated)

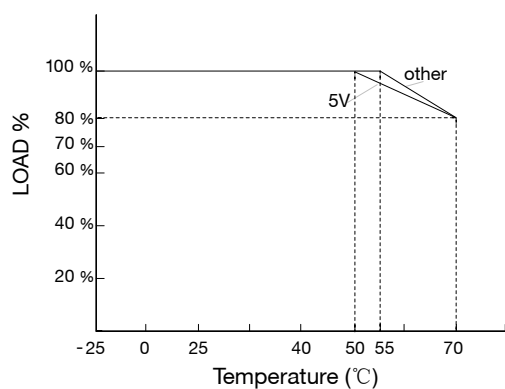
Performance

Current derating

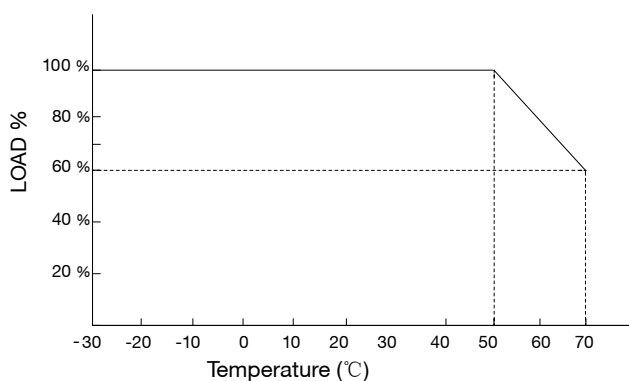
SPPM..25



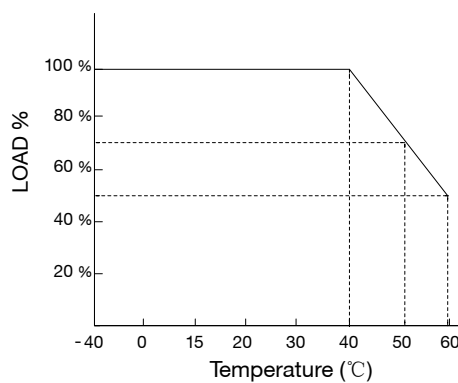
SPPM..35



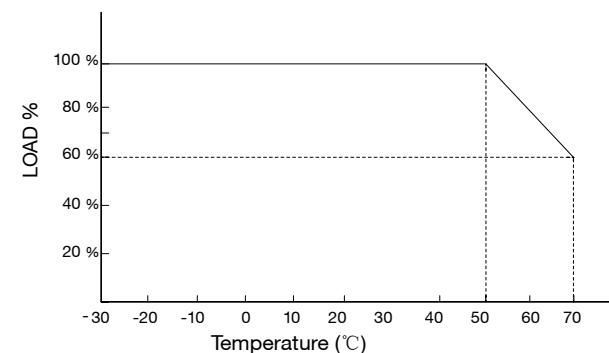
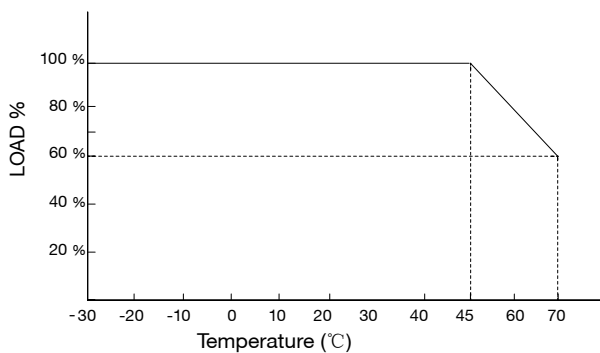
SPPM..50 / 75



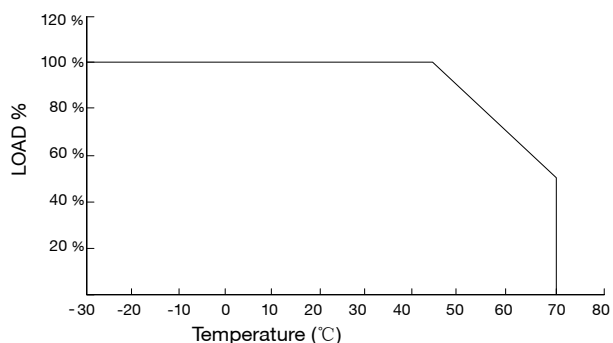
SPPM..100



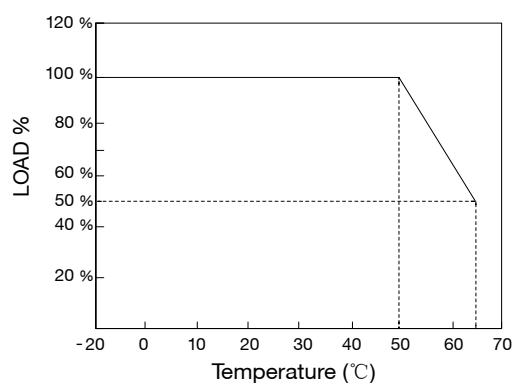
SPPM..150



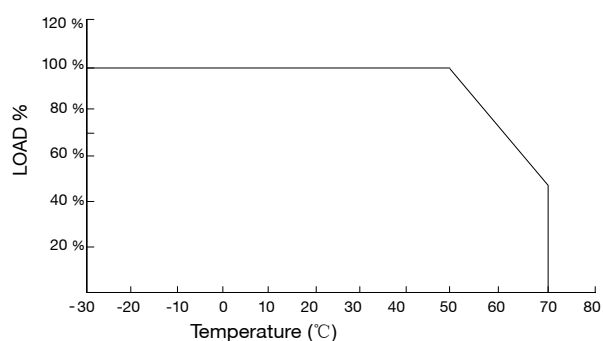
SPPM..200



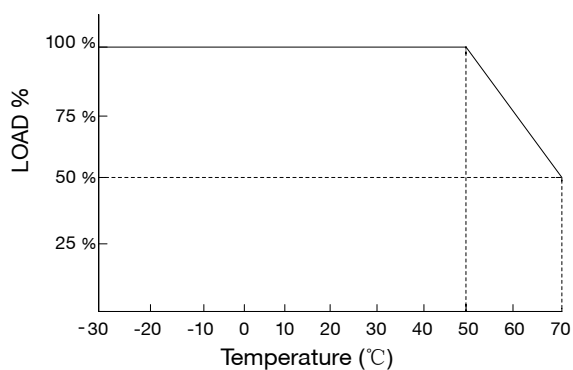
SPPM..240



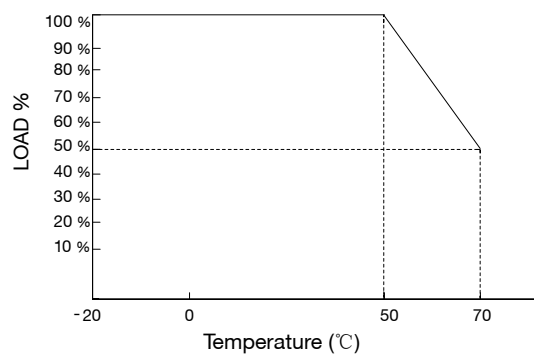
SPPM..350



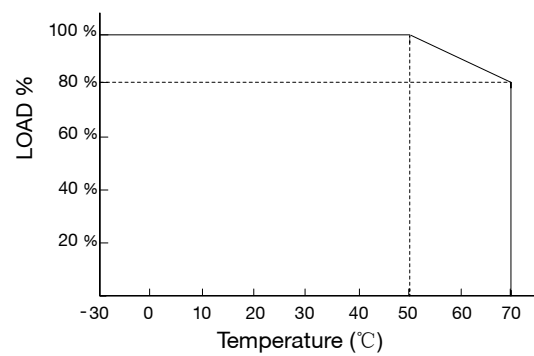
SPPM..480



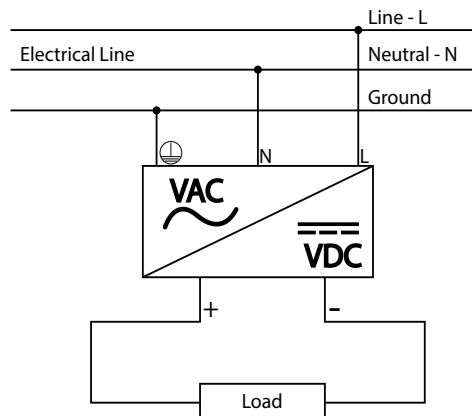
SPPM..600



SPPM..800



Wiring diagram

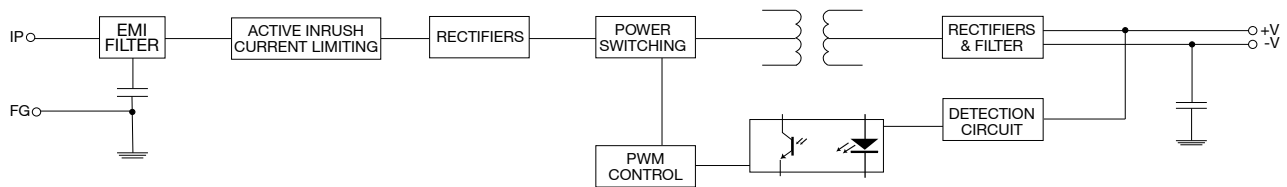


Connection specification

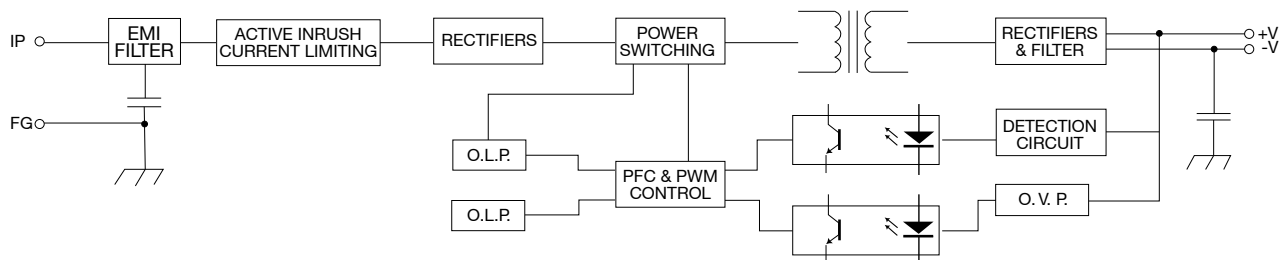
Terminal type	Input: 6.35 mm 3 PIN screw terminals
Screw driver blade	3.5 mm slotted or cross screwdriver
Tightening torque (recommended)	1 Nm
Flexible conductor cross section max	4 mm ²
Flexible conductor cross section min	0.5 mm ²
Conductor cross section AWG max	AWG 10 (GND wire >18 AWG)
Conductor cross section AWG min	AWG 20 (GND wire >18 AWG)
Rigid conductor cross section min	0.5 mm ²
Rigid conductor cross section max	6 mm ²
Max wire diameter	2.8 mm ²

Block diagram

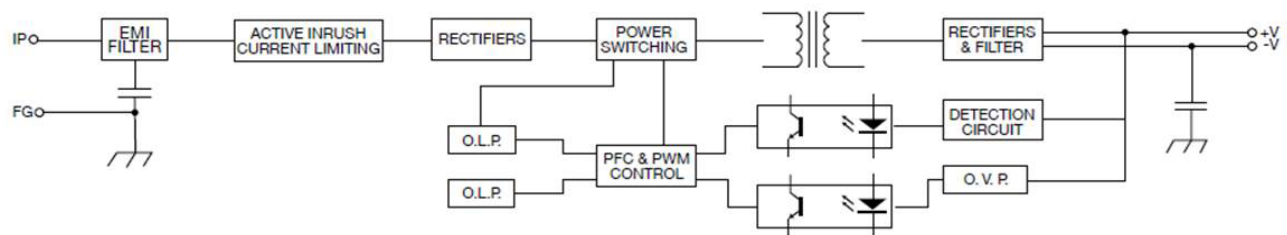
SPPM 25 / 50 / 75 / 150



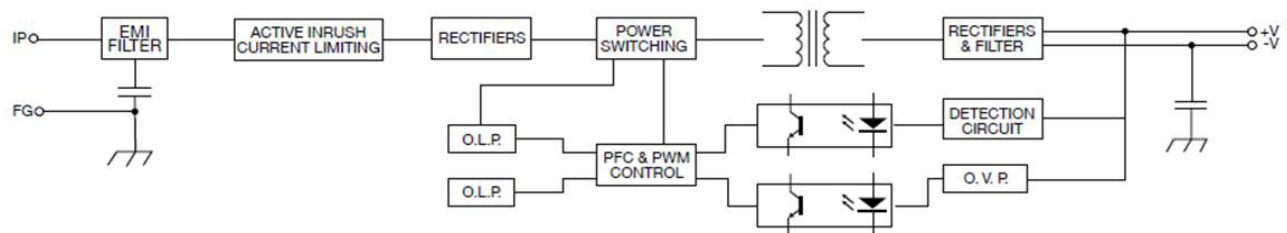
SPPM 35



SPPM 100 / 200



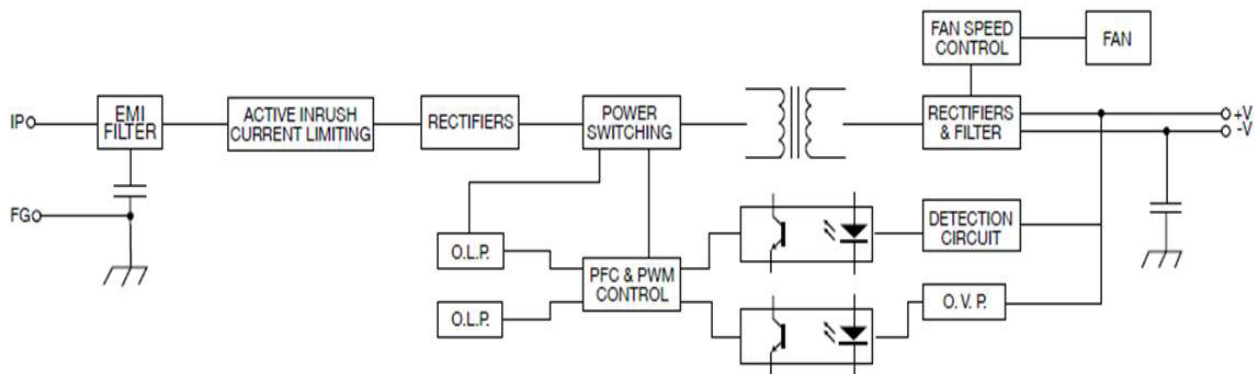
SPPM 200



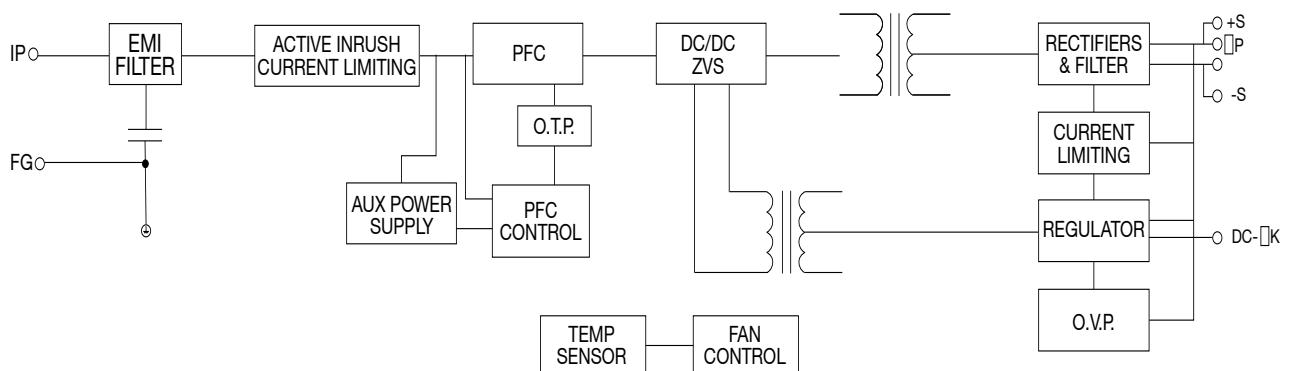
SPPM



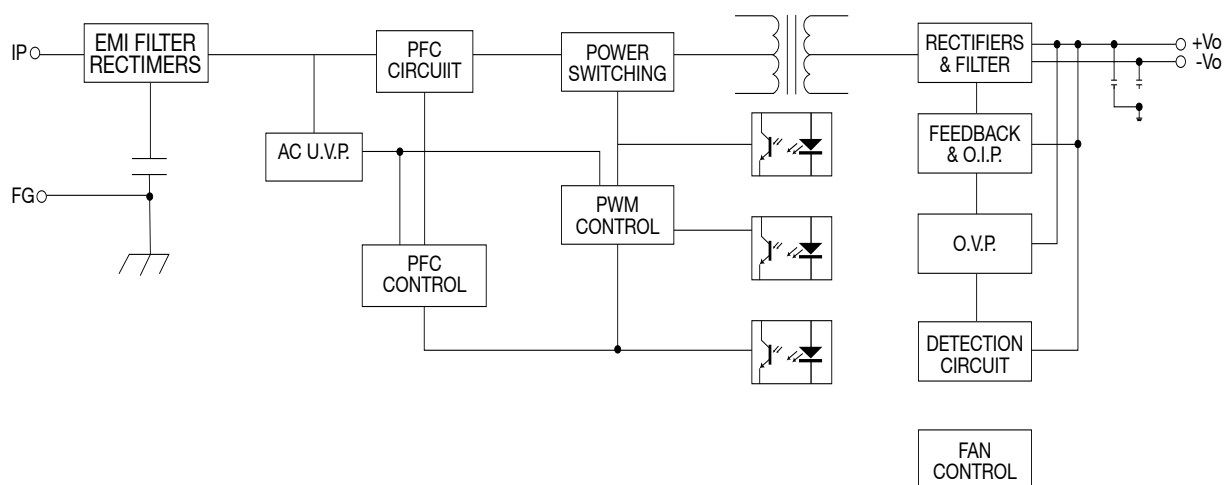
SPPM 240 / 350



SPPM 480 / 800



SPPM 600



Troubleshooting

Signalling and controls

DC OK LED	Green when output voltage $\geq 90\%$ of rated output voltage red when output voltage $\leq 80\%$ or rated output voltage or overload
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Operating description

Control and protection

SPPM		SPPM..251	SPPM..351	SPPM..501	SPPM..751	SPPM..1001	SPPM..1501
Overvoltage protection	12 VDC	-	13.2V~18V	13.8V~16.2V	13.8V~16.2V	-	13.2V-16V
	24 VDC	-	26.4V~36V	28.8V~33.6V	28.8V~33.6V		26.4V-36V
Overload protection	12 VDC	2.3A-3.7A 2.3A-3.7A	3.15A~4.5A	4.62A~7.2A	6.6A~10.8A	-	13.75A~22.5A
	24 VDC	1.2A-2A	1.575A~2.25A	2.42A~3.75A	3.52A~5.76A		6.875A~11.25A
Current limiting		No support					
Short circuit protection		Long - term mode, auto recovery					
Over temperature protection		-				-	Protection type: Output locked; after disconnecting AC power for 5 minutes, reconnecting AC can restore output.

SPPM		SPPM..200	SPPM..240	SPPM..350	SPPM..480	SPPM..600	SPPM..800
Overvoltage protection	12 VDC	13.8V-16.2V	-	13.8V-16.2V	110%-130% of rated output voltage	13.6V-16V	-
	24 VDC	27.6V-32.4V	-	27.6V-32.4V	110%-130% of rated output voltage	28V-32V	27.6 V-36V
	48 VDC	-	-	-	-	-	55.2V~60V
Overload protection	12 VDC	18.37A-30.1A	120%~170% of rated output current, Hiccup mode, auto recovery	105%-180% of rated output current	46.2A-56.7A	110%~150% of rated output voltage, constant voltage, auto recovery	-
	24 VDC	9.24A-15.1A	120%~170% of rated output current, Hiccup mode, auto recovery	105%-180% of rated output current	29.15A~35.78A	110%-150% of rated output current	110%-135% of rated output current
	48 VDC	-	-	-	-	-	110%-135% of rated output current
Current limiting		No support					
Short circuit protection		Long - term mode, auto recovery			Long - term mode, constant current, auto recovery	Long-term mode, auto recovery	Long-term mode, constant current, auto recovery
Over temperature protection		Shut down O/P voltage, recovers automatically after temperature goes down	-	Shut down O/P voltage, recovers automatically after temperature goes down	105°C + 5°C (detect on Mosfet temperature); shut down, auto recovery after the temperature goes down to 75°C	Switch off the output voltage, over temperature anomalies lift and recoverable output power supply after the restart.	105°C + 5°C (detect on Mosfet temperature); shut down, auto recovery after the temperature goes down to 70°C